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CIN / OER / S - 06550 - 74

5-6550  
MICRO ONLY

17 October 1974

MEMORANDUM FOR: Mr. Rauer H. Meyer  
Director  
Office of Export Administration  
Department of Commerce

SUBJECT : Soviet Bloc Oscilloscopes

1. Attached are copies of a list of USSR and Eastern European oscilloscopes that, in published specifications, exceeds the current COCOM IL 1584 cutoffs (Attachment A), and a redraft of IL 1584, as requested by Mr. John Boidock, for use in connection with the List Review (Attachment B).
2. The list of oscilloscopes and technical specifications is derived from officially published brochures and catalogs that are UNCLASSIFIED, and can be used by Mr. Boidock at his discretion. It should be understood that the appearance of these items in brochures and catalogs does not necessarily imply that they are available for use, or even that they are in production; the Soviets sometimes include prototype items in such documents. In the instant case, little is known about the availability of individual oscilloscopes. Similarly, little is known about their quality, reliability, or performance in operation.
3. The proposed redraft of IL 1584 represents our technical rendition of an earlier redraft by Mr. Boidock and is not to be construed as a recommendation for changes in coverage. We have tried only to make the draft technically accurate and clear.



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4. Questions may be directed to   
 who prepared the attachments.

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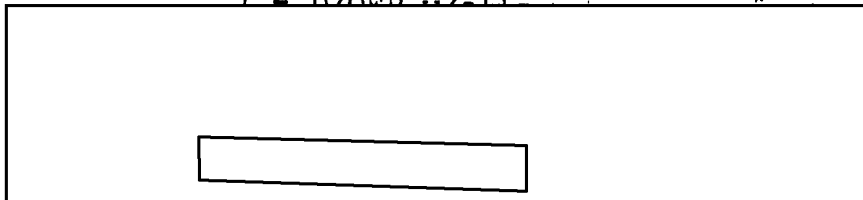


Attachments:  
as stated

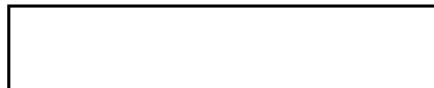
Distribution: (S-6550)  
Orig. & 1 - Addressee w/atts  
1 - D/OEP w/atts

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ATTACHMENT ASelected Soviet Bloc Oscilloscopes

C1-7 (DESO-1)	Bandwidth 30 Hz-60 MHz Risetime 15 nsec
C1-10 (OS-4)	Bandwidth DC-1000 MHz (6 dB) Risetime n/a Sensitivity 50 v/cm No variable sweep, fastest sweep 10 nsec
C1-11 (ISO-1)	10 KHz-100 MHz (3 dB), 200 MHz (6 dB)
C1-14	DC-3000 MHz direct to CRT (travelling wave deflection) DC-1000 MHz through delay line Risetime n/a Sensitivity 33 v/cm to 1000 MHz, 50 v/cm to 3000 MHz Sweep 10-500 nsec $\pm 10\%$ (calibration marks 1%) 850 watts, 237 lb
C1-15/8	1 KHz-350 MHz sampling plug-in for C1-15 and C1-17 75 ohm input: 1 nsec risetime, 20 mv/cm 500 Kohm//12 pf input: 1.5 nsec risetime, 50 mv/cm
C1-21	External sampling unit Risetime 2 nsec, with probe 4 nsec Bandwidth 200 MHz (sic)
C1-31	DC-80 MHz Risetime 4.5 and 7 nsec 100 mv/cm
C1-36	DC-1000 or 700 MHz (3 dB) direct to CRT Viewing area 1x3 cm (cf. 519: 2x6 cm) Photographic writing speed 500 Km/sec Sensitivity 1 mm/mv (?), 5 lines/v (519: 10 v/cm) Max pulse input 10v (519: 100v)
C1-39	DC-700 MHz sampling Risetime 0.5 nsec, 10 mv/cm

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ATTACHMENT A (continued)

Cl-41 10 KHz-100 MHz (3 dB), 200 MHz (6 dB)  
Risetime 4.5 nsec (80 MHz ?), 50 mv/cm,  
364 lb

Cl-45 Sampling scope, replaces Cl-39  
Plug-in specs vary  
45PS-1: DC-700 MHz/0.5 nsec or DC-1000  
MHz/0.35 nsec or DC-1000 MHz/0.5 nsec  
45PS-2: DC-2000 MHz, 0.2 or 0.17 or 0.15 nsec  
45PS-3: DC-5000 MHz/0.07 nsec

Cl-53 1000 MHz sampling storage

Cl-56 DC-350 MHz sampling  
Risetime 1 nsec, 15 mv/cm

Cl-60 Cl-45 + A/D converter and digital readout

Cl-61 DC-1000 MHz  
Risetime n/a, 1 v/cm, 200 MHz triggering,  
replaces Cl-36

OSA-601 Have 1000 MHz sampling plug-ins  
OS-150

VV305 1000 MHz sampling plug-in for OG2- mainframes

EMG-1555 DC-100 MHz  
Risetime 3.5 nsec, 10 mv/cm

OS710 Y101: DC-150 MHz (50 mv/cm), DC-60 MHz  
(5 mv/cm)

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ATTACHMENT BProposed Draft of IL 1584

Oscilloscopes and specialized parts therefor, as follows:

- (a) Oscilloscopes with a vertical channel bandwidth greater than X MHz
- (b) Oscilloscope systems, mainframes, and plug-in amplifiers, having any of the following characteristics:
  - (1) Oscilloscope systems with a vertical channel bandwidth greater than X MHz,
  - (2) Mainframes and/or plug-in amplifiers, whether supplied separately or as systems, designed for and capable of use in a system with a real-time vertical channel bandwidth greater than Y MHz when combined with the widest bandwidth compatible amplifier or mainframe
- (c) Active probes . . .
- (d) Sampling oscilloscopes, systems, plug-in units, and external sampling devices for stroboscopic analysis of recurrent phenomena, and having a bandwidth greater than Z MHz
- (e) Specially ruggedized for military use
- (f) (temperature)

NOTES

1. For the purposes of this entry, an oscilloscope system is defined to be a combination of a mainframe and one or more plug-in units. An oscilloscope is defined to be a complete instrument not designed to be used with plug-in units.
2. Bandwidth is defined as the band of frequencies over which the deflection on the cathode ray tube does not fall more than 3 dB from the maximum, measured with an input signal of constant amplitude.

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ATTACHMENT B (continued)

COMMENT

The rewording of the new (e) is intended to reflect the fact that most transistorized portables now available in the US are quite rugged to begin with, and applicable to many military uses without special modifications.